



BOROUGH OF PRESTON.



ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR

Year ending December 31st, 1894.



H. O. PILKINGTON,

MEDICAL OFFICER OF HEALTH.

MEDICAL OFFICER TO THE PORT SANITARY AUTHORITY.



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Report of the Medical Officer of Health.

TO THE CHAIRMAN AND MEMBERS OF THE SANITARY
COMMITTEE.

Gentlemen,

It is satisfactory to be able to preface this, my Annual Report for 1894, with the statement that the rate of mortality for the period in question was lower than that for any previous year, at any rate for any previous year for which returns and statistics are available.

The causes of this improvement, and the various diseases in which it was principally observable, will be best shown as each disease is separately considered, but in estimating the value of this improvement it must be borne in mind that a similar diminution in the amount of mortality was observable in most of the other large towns, and indeed generally throughout the whole of the kingdom.

In two respects the past year of 1894 resembles that of 1888, first in the diminished rate of mortality, and again in the prevalence of Small Pox.

There are some persons who contend that the first condition is the result of the second, and though at first sight this theory may appear a singular one, it is to a certain extent reasonable, since it may be contended that the increased attention paid by the Public to Sanitary matters, and the free use of disinfectants—both resulting from a fear of infection—have the effect of reducing other forms of sickness, and so of improving the Public Health and of lowering the general Death Rate.

But it is to climatic conditions that the reduction in the mortality must be chiefly attributed, and in these respects a strong similarity will be found between the two years in question—in both the summers were cold and wet, and in both the Infantile Diarrhœa was confined to a comparatively short period, with the result that the mortality from this cause, although severe while the epidemic lasted, was considerably below the average in amount.

The outbreak of Small Pox was of short duration, and confined within narrow limits, both as regards the localities affected, and the number of persons who contracted the disease. These good results were no doubt mainly due to the fact that the Small Pox Hospital was at once available, and that the cases as they appeared were promptly removed and isolated.

As no special Report dealing with this subject was presented at the time, I propose now briefly to review the leading circumstances connected with the outbreak, and to describe the various measures which were taken, and which were followed by such satisfactory results.

It will be remembered that in the early months of 1893, the portable Ducker Hospital formerly erected in Moor Park and used during the epidemic of 1888, was permanently set up on a suitable piece of land belonging to the Corporation, in Holme Slack Lane.

Here then it remained, occupied by a Caretaker and his family, and ready at very short notice for the reception of patients.

From the beginning of the year 1894 Small Pox was present in London and several other of the large towns, but no case occurred within the Borough, or in the immediate neighbourhood until February, when the disease showed itself in the married quarters of the Fulwood Barracks. Nothing further occurred until the end of March, when an undoubted and severe case came under observation, the patient—a male adult—being resident in Ribbleton Lane. In the early stage of the disease, the symptoms were somewhat obscure, and the nature of the illness was not clearly identified until the rash was well developed, and the patient's critical condition then prevented his removal to hospital. On April 16th and 19th two other cases were reported, of which one could be traced to the Ribbleton Lane case—just mentioned—while the other, that of a tramp in a Common Lodging House, was the result of infection contracted from outside the town. Both these patients were removed to the Union Hospital and neither case was followed by any spread of infection, although the one last-mentioned was attended by many circumstances fraught with special danger to the Public Health.

On April 21st a case was reported—that of an elderly female—in Park Ward. As the patient was desirous of being removed to Hospital, and was not suitable for admission into the Fulwood Wards it became necessary at once to open the Holme Slack Hospital. This was speedily done, and in a very few hours the patient was comfortably installed, the place duly provisioned, and a nurse engaged and ready for duty. It was of course necessary for the Caretaker's family to leave, he himself remaining and taking up the duties of Porter, which office he had filled during the previous epidemic of 1888.

On the 22nd and 23rd, two more cases were removed from Fishwick Ward, and on the 25th an unvaccinated infant was received from the same district, and was shortly afterwards followed by its sister, aged 5 years, and later on by its father.

During the early part of May, some 4 or 5 cases appeared in different parts of the town, and they were all promptly removed to Hospital. All these patients did well, and by the beginning of June, the last had been discharged, after which for a few days the Hospital remained empty.

About this time the disease was prevalent in many of the neighbouring towns and districts, so that during the succeeding three months it was on several occasions again introduced into the town, and fresh centres of infection were thus formed. With a few exceptions, where special circumstances interfered with the patients removal, each case, as it came under observation, was at once conveyed to Holme Slack, and the thorough disinfection of the house and premises was at the same time carried out.

From April 21st until September 1st, when the last patient was discharged, a total of 47 patients passed through the Hospital Wards. Of these, 28 were males and 19 females, while the ages varied from 9 months to 70 years. The majority of them developed a mild form of the disease, but in four it was distinctly confluent, while in several there were complications, or attendant circumstances, which materially added to the severity and danger of the attack.

One remarkable feature of the outbreak was the number of young children who developed the disease, and were admitted as Patients into the Hospital.

Of these latter, three were unvaccinated, though in the case of one, the operation had been unsuccessfully performed at the age of three weeks.

In the case of three distinct families, three members from each were admitted as patients, and this either at the same time, or within a very short interval of each other. Many of the patients were able to be discharged after a residence of 12 or 14 days, and in no instance was there any subsequent evidence that Infection had been conveyed out of the Hospital. The duration of the longest residence was 37 days, in the case of a boy aged six years, who was admitted on June 29th, and discharged on August 4th.

Only one death occurred; that of a man aged 70 years who, in addition to a severe attack of Small Pox, also suffered from Bronchitis and Heart Disease. As no death took place amongst the patients who remained at home, this represents the total mortality from the epidemic, and in this respect Table No. 5 is somewhat misleading, since the rate is

there calculated upon the number of cases reported by Certificate, and, as I have stated, in several instances more than one member of the same family was attacked, while in others the existence of the disease was discovered without notification. Altogether during the whole period of the epidemic some 60 persons were attacked, and the generally mild character of the disease is shown by the fact that the death just mentioned is the only one which resulted from it.

To several charitable friends the Hospital was indebted for useful and valuable gifts, those of clothing, underlinen, and shoes being especially acceptable, since several of the patients were in very poor, and even destitute, circumstances.

Miss Pigott, Matron of the Royal Infirmary, kindly superintended the provisioning of the place, and also supplied the small Nursing Staff required.

For a considerable time I was able to manage with the services of a single nurse, and at no time had more than one for day, and another for night duty. As so many of the patients were very young children, requiring constant attention even apart from their illness, this could only be done by the willing co-operation of all the staff, with the assistance of the convalescent patients, who—with very few exceptions—showed themselves anxious to do all that they could in return for the care and attention bestowed upon them.

It was only necessary to make use of one—the Western—wing of the Hospital, and of this the South end was allotted to the men, and the North to the women and children. The weather during the summer months was unusually cold, with heavy rainfalls, and though these conditions probably did good by restricting the spread of infection, they confined the convalescents a good deal within doors, and prevented them from reaping the full benefit of the fresh air, although in the case of many of the children their short residence produced a marked improvement in their appearance and general health.

The Building stood well the severe test of the stormy weather, and was always comfortably warm; whilst ample ventilation could be ensured without any danger from draught.

Small Pox is not only one of the diseases in which isolation is of value, but it is essentially the one in which it is necessary. It is one in which the maximum point of infection is not reached until some time after the first appearance of the rash, so that if the first case be promptly removed, and the house and its contents thoroughly disinfected, there is always a fair chance, even in a crowded household, that the disease may be prevented from attacking a second member. This was shown in several instances during the recent outbreak,

even in those—the most dangerous of all—where the person affected was living in a Common Lodging House.

The epidemic of 1894 was in no way comparable with that of 1888, either in extent, in severity, or above all, in the magnitude and suddenness of its first outbreak, but there is little doubt that it would have attained much more formidable proportions, had the Hospital not been ready, and the means of isolation at once available.

No charge was made for the maintenance of any patient, and in order to prevent delay, or the possibility of unpleasant circumstances, such as were reported from other towns, admission was granted to all classes without enquiry as to whether or not they might come within the category of paupers. The principle of free admission is certainly the right one, since the Hospital has been erected, and is kept up, at the public expense and for the public good. It might be feared that the admission of paupers would prevent the building from being used by the ratepaying classes, but, with a little management, this objection can be overcome, since the Hospital Ward is a republic, in which all persons are equal, have the same rights and privileges, and must conform to the same rules.

From Typhoid and Continued Fever the mortality was considerably below the average of previous years. A total of 29 deaths was registered from these causes against 48 in the preceding year, and 36 as the average for the six previous years. St. Peter's Ward, with 11 deaths, showed the heaviest rate in this respect, after which must be placed Park with 6, and St. John's Ward with 4 deaths, Christ Church and Maudland Wards having each 2 fatal cases, while Fishwick occupies the best and lowest place with a single death.

The mortality from Scarlet Fever was the lowest recorded for many years, only 9 deaths having been directly ascribed to this disease. It is one of the "Zymotics" which in most large towns shows itself in epidemic form at more or less regular intervals, the maximum point of the outbreak being generally attained about every fourth year. Although cases were continually reported, the prevailing type of the disease was mild, and not attended with any marked power of infectivity, so that the precautionary measures adopted were followed by more satisfactory results than has generally been the case in former years. That it was a benign form of Scarlet Fever is shown by the ratio of deaths, which form something less than five per cent. of the reported cases of sickness.

Measles were present, although not very prevalent, during the early part of the year, and even up to July, the infection remaining after the severe epidemic of 1893. The deaths numbered 35, of which all, with two exceptions, were those of children under the age of five years. They occurred in all parts of the town, although Maudland Ward, in proportion to its population, showed the greatest mortality.

The mortality occasioned by Diarrhœa—always a fruitful cause of death—was considerably below the average of former years; and, as I have already stated, it is to this fact that the reduced general Death Rate must be largely attributed. And in dealing with Diarrhœa I confine myself to that form which brings it under the category of Zymotic disease,—the Summer Diarrhœa of young children—since outside of this, the few cases recorded have no importance or significance. This is well shown by the Mortality Tables, from which it will be seen that out of the total 143 deaths, 133 were those of children under the age of 2 years, and that 106 occurred in the months of August and September.

The summer was a late one, or rather the early months were unusually cold and wet, and as a consequence the Diarrhœal outbreak began at a later date, and ran a shorter course than has been the case in former years.

It was not until the end of July that any marked rise in the mortality from this cause was noted, the greatest number of deaths being recorded in the week ending August 11th.

As I have said, the principal mortality was in very young children, 133 being under the age of 2 years, while of these, 118 were infants, many of them only a few weeks old, and all under the age of twelve months.

I have nothing to add to what has already been so often said in former Reports, as to the cause of this Diarrhœa, or the localities in which it was especially fatal. The experience of the past year only goes to confirm the theory that when the ground at a depth of four feet reaches a temperature of 56 degrees, then, in those districts in which the subsoil is foul and polluted, a germ is evolved which, finding its way either directly by the air, or through the medium of the food, enters the body of a child and produces Diarrhœa.

I regret that the Meteorological records for the past year are imperfect, partly owing to the instruments not having been in use during the transference of the Sanitary Department from the old building in Church Street to its present Offices in Tithebarn Street, and partly also to their having received injury in transit, which entailed a further interval during the time of their being put into working order. It has therefore been necessary to omit the usual Temperature and Diarrhœal Chart, but such records as are available, shown in Table No. 11, prove the connection between the deep earth temperature and the Diarrhœal mortality; while enquiry made into the circumstances of many of the deaths further shows that it was in insanitary districts that the disease was especially rife and fatal.

The striking effect of temperature upon this disease is well shown by a comparison between the mortality which resulted from it in the four weeks ending July 14th, 1893, and that

for the same period of last year. In 1893 the mean temperature for this particular period reached 64 degrees, and the Diarrhœal deaths numbered 134, whereas last year, when the temperature was considerably lower, the mortality was confined to 7 deaths.

The Plan showing the situation of the Diarrhœal deaths, under the age of 12 months, compares very favourably with those issued in preceding years, in as much as the number of fatal cases is smaller; but it is still more satisfactory to find that there is a more than proportionate reduction in those Districts in which Sanitary Improvements have been carried out.

These improvements have consisted in the substitution of a Water Closet for the old fashioned Privy, and of a Dry Ash-pail—to be emptied at least once in each week—for the Midden which formerly took up so much of the yard space, and which filled the surrounding air with nauseating and dangerous smells.

The benefit resulting from the work of former years is seen in the diminished number of Diarrhœal deaths in such districts as the streets running to the South of Avenham Lane, and in those extending to the East and West of Adelphi Street. The work accomplished in this direction during the past year will be described and dealt with further on, but the good effect which has so far followed these improvements is at least encouraging, and although the resulting benefit is most marked in the case of Infantile Summer Diarrhœa, it may with confidence be inferred that it is not entirely confined to the sickness and mortality arising from this disease alone.

The deaths from Whooping Cough amounted to 41, a number somewhat higher than that from the same cause in the previous year, but below the average for the past six years. There was nothing remarkable either as to the age, time, or place, at which these deaths occurred, or the circumstances attending them. With one exception, the deaths were those of young children, and nearly one half were those of infants under the age of 12 months, while they were distributed over all parts of the town, and throughout each month of the year.

Diphtheria was registered as the cause of 8 deaths, while the number of cases of sickness, notified by Medical Certificate, amounted to 39, so that the percentage of deaths—20·51—cannot be regarded as heavy, since, as I have shown in previous Reports, this is a disease of uncertain classification, and one not generally reported unless the symptoms are of more than usual gravity. It is a disease which is happily not common, and certainly not prevalent, in Preston, and as regards the amount of sickness and the number of deaths caused by it, the town compares very favourably not only with other large towns, but also

with many country districts, because it is in the rural districts that Diphtheria not unfrequently assumes epidemic proportions.

It is a question whether or not Diphtheria can actually be created from Sewage matter, but it is certain that in country districts it is most frequently met with in those situations where stagnant sink ditches most abound, and in those towns where there is a heading back of the Sewage, with the result that the traps are forced, and the Sewage-matters find entrance into the houses.

The Death rate from this cause only amounted to 0·7 per thousand, Sunderland being the only one of the other large towns which showed a lower mortality. It is as yet too soon to speak with any certainty as to the success or failure of the "Anti-toxin treatment," which has of late been brought forward as the remedy for Diphtheritic affections, but, since prevention is better than cure, the best safeguards are the avoidance of possible sources of infection, and attention to the Sanitary condition of the house. At the same time all forms of Sore Throat, especially in Children, should be looked on with some suspicion, and as a simple matter of precaution it would be well if both parents and teachers would combine to keep children thus affected from attending School.

From the seven diseases thus described—classed as Zymotic—the death rate amounted to 2·61 per thousand of the population, and of this more than one half was due to the Diarrhœal mortality.

In several of the other large towns this rate was exceeded, although in all it was considerably below the average of former years, the Zymotic rate for the whole kingdom only amounting to 1·76 per thousand. Further particulars on these points are given in Table No. 10.

The deaths from Croup were 7 in number, the victims being all young children, and the cold months, at the beginning and end of the year, the periods when it most prevailed.

From Consumption, 166 deaths were recorded, which is a lower number than that from the same cause for many years back. Although the reduction is probably in a measure due to the same causes which resulted in a lowering of the general mortality, it may fairly be assumed that improvements in the houses and work places of the Operative class have had some good effect in this direction. It cannot be too strongly impressed upon the Public mind that Sunlight is a most important disinfecting agent in the case of the Bacillus of Tubercle and in those of other diseases, and the presence of Sunlight implies the admission of fresh air, and more or less efficient ventilation.

As regards Consumption there has always been a difficulty in comparing the Mortality of one town with that of another, owing to discrepancies in classification; but taking Phthisis as meaning Pulmonary Consumption, recent tabulated returns, for a number of years, show that the Death-rate from this cause in Preston is about equal to that of most Lancashire towns, with the exception of Liverpool, Manchester, and Salford, which in this respect show a higher mortality.

The Mortality from Respiratory Affections, classified under the headings Bronchitis and Inflammation of the Lungs, was lower than usual, the deaths from these causes numbering respectively 236 and 166 as against 268 and 205 for the previous year, or an average of 300 and 234 for each of the six preceding years. As usual the greatest number of the deaths from these causes was registered in the winter months, at the beginning and close of the year, although there was a marked increase in March, owing to a sharp and sudden return of the colder weather.

Towards the end of the year there were indications of a return of the epidemic of Influenza which added so largely to the death-rate during the autumn months of 1893, and which already during the present year has caused a considerable amount of sickness, and has materially helped to swell the lists of mortality.

The deaths from those Infantile diseases, which are classified as "Teething, Convulsions, Premature Births, and Debility," amounted to 522, and of themselves formed nearly one-fourth of the total registered mortality. Although the actual number is less than that from the same causes in previous years it is still exceedingly heavy, and does not show a reduction proportionate with that of the general mortality for the year. When to these deaths are added those from other causes, occurring in Children under the age of twelve months, it raises the total Infantile mortality to 776 or 35·49 per cent—more than one-third—of the deaths at all ages and from all causes.

Moreover the Births have declined in number, so that the Deaths under the age of one year stand in the relation of 217 to every thousand Births, in other words out of every thousand Children born, 217 died before completing their first twelve months.

In many other of the principal towns, the Infantile Death-rate was heavy, but in none did it prevail to such an extent as in Preston, which again during the past year in this respect unhappily takes the worst position. The towns coming nearest to us, as to Infantile mortality, were Liverpool, Oldham, Nottingham, and Salford; while for the whole of England and Wales, the deaths under the age of twelve months stood in the relation of 137 to each thousand Births.

The causes which lead up to this grievous loss of Infantile life have already been discussed in former Annual Reports, and the subject is one which at all times has engaged the attention of Medical Officers and others interested in Sanitary work.

The subject was fully gone into at Meetings of The North Western Association of Medical Officers of Health, held in Manchester in December and January last, and the opinions of many Lancashire Medical Officers will be found in the Journal "Public Health" for the first two months of the present year.

Improvement in this respect may be looked for in three directions—First from Legislation, which can restrict the Employment of Women in the Factories and Workshops, limit the amount for which a child's life may be insured, and the age at which it becomes payable, and cause more searching enquiry to be made into many of the deaths, which if not due to actual and wilful neglect, are not unfrequently the result of an ignorance hardly less culpable—Secondly, from the exertions of Sanitary Authorities in the direction of improving the houses of the working classes—And lastly, from Education, which in the course of time will teach parents and nurses the requirements of Infantile life, the importance of cleanliness, fresh air and sunlight, and the dangers of unsuitable feeding.

The deaths caused by Old Age amounted to 76, a number very similar to that registered under this heading in former years.

Those due to Violence were also exactly equal to the number for the previous year, and, allowing for increase of population, about the same as for some time past.

The remainder of the Deaths, 690 in number, are as usual grouped together in Table No. 3, under the heading "Other Diseases," but detailed information as to their nature, and the ages and localities at, and in, which they occurred, is set forth in Table No. 14.

And this year I would again refer to the deaths following upon, if not actually caused by Parturition. Some of these were due to Hæmorrhage, Exhaustion or other causes, which in no way brought the case within the list of Infectious Diseases, or called for any official investigation or interference. But there were others in which Septicæmia, Pyæmia, or some other form of blood poisoning, showed that the disease was one of "Puerperal Fever," and that, however acquired, it was capable of giving off a poison, which although probably not infectious, in the sense of being carried by the air, was most certainly contagious, and could be conveyed by the person or clothes considerable distances and with most disastrous effects.

Experience and research have shown a coincidence, as to time and place, between Puerperal Fever and Erysipelas, in as much as they frequently prevail together, while

similar conditions favour the spread of both diseases. To some extent this is also true as to Scarlet Fever, and it is therefore of the greatest importance to shield the parturient woman from any contact with these, or indeed any similar diseases. Although many of the deaths after Confinement occurred in the Autumn, and about the same time or shortly after, Erysipelas had been somewhat prevalent, in no instance was there traceable any direct connection between the two diseases.

With our greater knowledge of the actual causes of infection, and of the uses and properties of the various disinfectants, it might be expected that such a disease as Puerperal Fever would no longer have a place amongst the causes of death, but such is far from being the case, and though it is much less frequent in the Maternity Hospitals both here and abroad, and there is much less probability of its attaining epidemic proportions, the actual number of deaths from this cause has not of late years declined. Medical men well know the readiness with which Septic matter can be absorbed during, and after, the parturient condition, and are consequently careful that they themselves should not become the vehicles of its transmission, and in the interest of their patient they should also see that the nurse or midwife is equally careful. This is especially necessary at the present day, when the "douche" is so frequently used, since, without the strictest attention to cleanliness, the instrument employed may readily become a means of conveying poison from one patient to another.

This completes the Analysis of the various causes of death, the total mortality for the year having been 2186, or at the rate of 19.61 per thousand of a population estimated at 111,425. As already stated, this rate is the lowest which has been recorded certainly for the past fifty years, and indeed for the period concerning which reliable statistics are available.

As regards the situation of these deaths, and the mortality rate in the several Wards, the position of former years is somewhat altered, as Maudland Ward, with the lowest rate 13.29, takes the place generally occupied by Christ Church Ward, the latter having the next best position with a rate of 17.62 per thousand. St. Peter's and Park Ward are nearly equal with respective rates of 19.47 and 19.43, Fishwick comes next with 20.83, while this year St. John's occupies the worst position with a rate of 21.94.

The mortality during the different seasons of the year varied from 465 deaths in April, May, and June, to 588 in the succeeding three months, while 558 deaths were registered in the first, and 575 in the last quarters of the year.

For some years past I have had occasion to refer to the gradual, but steady reduction in the Birth Rate, and this falling off has been continued during the past year, when 3545 Births were registered, the rate—31.81 per thousand—being the lowest ever recorded.

As a rule for many years back, Preston, amongst the other large towns, has shown the highest, or very nearly the highest Birth rate ; but last year it was exceeded by Sunderland, Liverpool, and Cardiff with rates of 35, and by Gateshead, Salford, Wolverhampton, and West Ham with rates slightly exceeding 34, to each thousand of the inhabitants.

In some of the other towns the Birth rate has fallen very low, notably in Huddersfield—20·2, and Halifax—23·1, while for the whole Kingdom it only reached 29·6, and, as in Preston, was the lowest for which returns can be produced.

With such a diminished Birth rate it might be expected that the addition to the population by natural increase i.e. excess of Births over Deaths, would be very small for the year, but such was not the case, since the Death rate was even more than proportionately reduced, so that there was a gain of 1359 lives, the largest number for any recorded year, with three exceptions; and of these 1881 and 1888 show, next to 1894, the lowest rates of mortality.

But all these figures, both those relating to Preston and the other large towns are concisely shown in Tables No. 10 and 14, appended as usual to this report.

A great deal of the work done by the Inspectors in their several Districts, is set forth in Table No. 12, but not the whole of it, since there are always cases, and these the ones which not unfrequently involve the greatest expenditure of time and labour, where the wished-for result is obtained by arrangement with the owner or agent of property, without the necessity of serving a formal notice.

As in the previous year there has been a diminution in the number of Ashpits emptied, and a corresponding increase in the ashpails—the movable receptacles which in conjunction with a water-closet are now, I am glad to say, gradually, and in the worst parts of the town, taking the place of the old fashioned privies and ashpits, which for years have been the cause of a great deal of sickness, and which from their very construction must each year become more dangerous and offensive.

The property thus improved in No. 1. District—Fishwick and St. John's Wards—consists of certain blocks on the north side of Ribbleton Lane, forming a continuation of those dealt with in previous years, of other streets to the west of London Road, and of isolated houses where the conditions were unusually bad. In addition, the closet accommodation at Stourton Street Mill, and Ribbleton Mill has been entirely remodelled, while certain offensive cesspools at Hartford Mills have also been filled up and done away with. Seven

cellars in London Road, which in many respects failed to comply with the requirements for cellar dwellings laid down in the Public Health Act, 1875, were closed as unfit for human habitation.

In No. 2 District, which consists of Park Ward, and embraces a good deal of old property towards the centre of the town, improvements have been carried out in the case of some 150 houses.

In this District the streets are not laid out in parallel lines, but are irregularly built, and the houses in each street vary in condition, so that the work has not been carried out in any one particular direction, but attention has been given to those dwellings which had the most insanitary surroundings, or in which sickness had prevailed. The triangle formed by Church Street, North Road, and Park Road, would include a great many of the houses dealt with in this part of the town during the year. Three houses and one cellar, situated in Pearson's Row, a Cul-de-sac on the west side of Patten Street, were found to be in such a neglected and ruinous condition as to be quite unfit for human habitation, and as a consequence were ordered to be closed.

In No. 3 District—St. Peter's and a portion of Maudland Ward—a considerable amount of property has been improved, of which some is situated in the streets running off Adelphi Street and Plungington Road, and some in streets in the neighbourhood of Fylde Road.

Certain Privies attached to a Weaving Shed in the last-named street have also been converted into Water-closets with automatic flushing cistern.

No. 4 District—which consists of Christ Church and the remainder of Maudland Ward—contains a smaller proportion of insanitary property, and here 19 houses have been dealt with.

Special reports describing the condition of all the above mentioned property in detail, have been presented at the regular meetings of your Committee, and I have added to this Report the usual Plan showing the Sanitary Improvements of the past year, as well as those of the previous decade.

In addition to the alterations which have been the result of Notices issued by the Sanitary Authority, it is satisfactory to find that in not a few cases owners of property have of themselves made similar improvements, no doubt recognizing the fact that with proper sanitary accommodation there is a much better chance of obtaining satisfactory tenants.

In a number of cases the work of testing the drains, either on account of some complaint, or of sickness, or of some suspected defect, or to satisfy a tenant entering upon a fresh residence, has been carried out, the smoke and peppermint tests being those adopted. Properly and carefully used these tests will not unfrequently disclose defects which have escaped a less searching examination. Within the last few days the smoke rockets made clear the cause of a nuisance, and revealed a method for "laying on" sewer gas to a house so ingenious in its design, and so certain in its result, that I could only conclude the workman, who had conceived and carried out this masterpiece, deserved encouragement for his ingenuity, while at the same time public safety called for his immediate execution.

Careful and regular inspection has been made of the Common Lodging Houses, while during the presence of Small Pox in the Town they were visited each day. As far as possible they have been kept in a satisfactory condition, and on the whole show a tendency towards improvement, but the structural defects of many of them, referred to in my last Report, still continue. The Arkwright Arms, described at the same time, is doing very good work, and not only receives the support of the better class of the shifting population, but also provides permanent lodgings for many respectable working men.

The Bakehouses have received constant attention in order to ensure their being kept in as cleanly a condition as possible. Several of them, more especially the smaller ones, situated in cellars, have of late been discontinued, as there is a growing tendency to use shop bread in preference to that made at home.

The supervision of the Canal Boats has been carried out as in former years, Inspector Hankin continuing to act as the officer in this department in addition to his other duties in No. 4 District. The Boats have been kept in a satisfactory condition, no Infectious disease has occurred amongst those living on board, nor, with the exception of certain structural alterations in the case of one Boat, has any change been made in the Register. A Report dealing with this subject has already, as required by the Canal Boats Act, been forwarded to the Local Government Board, but as it was purely of a routine character there is no occasion for further reference to it.

Tables No. 6 and 8 show the work done by the Inspector of Meat, Food, and Drugs &c., and from these it will be seen that nearly 42,000 lbs. weight of meat has been condemned and destroyed, almost the whole of it having been voluntarily submitted for examination.

In one case occurring early in the year, where a butcher was found to be in possession of a diseased animal, for which due notice had not been given, a Magistrate's order was

obtained for its destruction, and further proceedings were afterwards instituted, with the result that a fine of £5 and Costs was imposed. Later on, in the month of May, another butcher was summoned for offering for sale in the Public Market, a quantity of meat which, though not diseased, was so far decomposed as to be unfit for human food. A similar fine of £5 and Costs was inflicted in this case.

Progress has been made towards the Erection of a Public Abattoir, in accordance with Plans passed by the Council in December, 1893, and Tenders having been obtained, the work may now be said to be fairly in hand. Of the advantages of such a building, and of the good results which must follow upon its erection both from a sanitary and a humanitarian point of view, nothing further need be said, since these were fully discussed and understood, before the adoption of the scheme, and have year by year, been dwelt upon in my Annual Reports.

The erection of the building, and its subsequent use, must however be followed by the abolition of many of the private Slaughter-houses which at present are scattered over all parts of the town, generally in situations which are quite unsuitable, and which have no proper facilities for the slaughter and dressing of animals intended for human food. The work of supervision will be rendered more easy and more efficient, since the very number of the buildings at present used as Slaughter-houses, and the out of the way positions in which many of them are placed afford opportunities for the disposal of Carcases which the owners would not dare to submit to proper inspection. A Public Abattoir has come to be recognized as part of the Sanitary equipment of all large towns, and during the last ten years the number of towns which have such necessary accommodation has been more than doubled. It may be hoped that the one in course of construction here will be ready for use not later than the end of the present year, and it is to be regretted that the late Alderman Edmund Birley has not lived to see the completion of this, one of the last, but certainly not the least, of the labours to which he devoted himself for the benefit of the town and people of Preston.

In addition to the meat mentioned, 23,000 lbs. of Fish, and over 14,000 lbs. of Fruit, were also condemned as unfit for human food. A large portion of the Fruit consisted of what is known as Fruit Pulp, used in manufacture of Preserves and Jam, and as this, unlike the rest, could not be consumed in the Destructor, it was removed to the outskirts of the town for the purpose of being converted into manure.

It may seem somewhat wasteful that the whole of the Carcases should be destroyed, since some of the constituents might be extracted and utilized ; but it is certainly the safest, and therefore the most satisfactory method of disposal, because the money gain would, I think, be more than outweighed by the possibility of portions of the meat being abstracted for use as food.

As shown by Table No. 6 there has been a considerable increase in the number of samples purchased, and afterwards submitted for Analysis.

They consisted of Milk, Butter, Lard, Coffee, Bread, Beer, Spirits, Condiments, &c., and with six exceptions were all found to be of genuine quality. In 2 cases of Whisky, the excess of water was so slight that no action was taken; in a third, adulterated to a greater extent, the dealer was cautioned by letter; while in two others where the added water amounted to 8 per cent., and $9\frac{1}{2}$ per cent. above the amount allowed by law, the Vendors were summoned, and were respectively fined 20/- and 40/- with Costs.

For selling a Sample of Coffee, unlabelled and adulterated with 25 per cent. of Chicory, the dealer was fined 10/- and Costs.

Proceedings were also taken against a Horse Slaughterer, who for a long time had defied the Authority by carrying on his business upon unlicensed premises in the centre of the Town, and who was also a constant source of complaint from the manner in which he conducted a similar business—also upon unlicensed premises—at Ribbleton, near the South-East boundary of the Borough. As regards the first establishment, there were great difficulties in the way of obtaining evidence sufficient to ensure a conviction, but these were eventually overcome, and in May a penalty of £5 and costs was obtained. In September three convictions for offences committed upon consecutive days, were obtained, and a similar penalty to the above was inflicted for each offence.

About the same time a Carter was fined 10/- and costs for removing from the same Yard a quantity of offal and offensive animal garbage within the hours of daytime. Since then the place in question has been discontinued as a Knacker's Yard, and the old dilapidated buildings having been pulled down, Public Stables are in process of erection, in which form it may be hoped that in future it will be less troublesome to the Sanitary Authority and less offensive to the neighbourhood.

From time to time there have been complaints relating to the Gas Works, and to certain "Offensive Trades," chiefly Tripe-boiling and Tallow-melting, carried on within the Town. Where such businesses as the latter are situated in crowded localities, or indeed anywhere within a large Town, there must at times, and especially during the hot weather, be some disagreeable smell; but in all cases there has been a desire on the part of the owner or manager to reduce this as much as possible, and a readiness to carry out any suggestions for improvement which could be offered.

Throughout the year the Water Supply continued to be abundant, and, as analysis shewed, of very satisfactory quality and well adapted for all domestic purposes. Progress has been made with the enlargement of the Alston Reservoir, by means of which valuable additional storage capacity will be obtained, and also with the laying of a new 36-inch Main, from which the Town will receive the benefit of increased pressure.

At times, and especially during the summer months, a deposit was observed in the water, which caused some little trouble by collecting in the narrower pipes near "dead-ends" or where the circulation was weak, but a microscopical examination shewed this to consist of nothing more deleterious than particles of peat, fragments and capsules of mosses, and minute vegetable life, washed down by heavy rainfalls from the moorland gathering grounds.

As is always the case in a year when Small Pox is prevalent, large demands were made upon the Sanitary Department for disinfectants, and these were liberally distributed, since, if used at all, a disinfectant can hardly be altogether wasted. But while they are still freely and gratuitously given out, in the form of both powder and liquid, from the Sanitary Yard adjoining the Tithebarn Street Offices, it should be understood that it is not expected that application will be made by persons who can well afford to purchase their own, and that they are certainly not intended for the use of Firms, or large employers of labour. And as this—the time of writing—is the season when whitewashing is generally done, I take this opportunity of inviting tenants—not owners—of cottage houses, to make application for lime, which, ready prepared with size, will be given out from the same place, while the loan of suitable brushes can also be obtained.

In this way, with no further expenditure than that of a few hours' labour, the back yard and outbuildings can be coated with whitewash, and this, however roughly done, will at least have the effect of making the house lighter and more cheerful, and of purifying and sweetening the surrounding air.

The smaller the Yard, and the more crowded the locality, the greater is the necessity for such a proceeding, and the greater is the resulting benefit, but while these are the places which most urgently require such attention, they are unfortunately the very ones which least frequently receive it.

H. O. PILKINGTON,

MEDICAL OFFICER OF HEALTH.

April 6th, 1895.

PORT SANITARY.

As your Committee, beside dealing with subjects connected with the Health of the Town, is also the one having control over Port Sanitary matters, and as the business of the Port, although increasing, has not attained sufficient dimensions to require any increase or alteration in the Sanitary Staff, I propose as in the previous year, to append to my Annual Report on the Health of the Town, a short description of the work accomplished in connection with the Dock, and the vessels which have entered it.

The work of inspection has been carried on, as before, by Inspector Baron, in addition to his Urban duties in connection with No. 3 District.

Many of the vessels dealt with are small traders running between this and neighbouring Ports, and consequently re-appearing in the Dock at more or less regular intervals. It has therefore not been necessary to make a fresh inspection of these each time of their entering Port ; but the actual number of fresh vessels which have been thoroughly examined is considerably in excess of that for the preceding twelve months. The number, distinguishing between steamers and sailing vessels, is set forth in Table No. 9, together with their general conditions, and the various defects which have been discovered and remedied.

It is satisfactory to be able to state that opposition has never been made to the visits or action of the Inspector, and that any defective or insanitary conditions complained of have as a rule been speedily set right.

Since the space given up to the crew in the fore-castle of a vessel is generally very limited (The Merchant Shipping Act only requiring 72 cubic feet) it is especially necessary that the light and ventilation should be efficient, and that the place should not be used for the storage of any goods other than the personal property of the men to whose use it is allotted, and since it is more or less constantly occupied—one watch taking possession as the other goes on duty—it is especially necessary that it should be kept clean, and this is a matter resting in a great measure in the hands of the men themselves.

A great deal can be done by a vigilant Inspector by attention to various little details, which may perhaps seem trivial in themselves, but which in the aggregate must have an important bearing on the comfort and health of the sailors and firemen who occupy the fore-castles of our Merchant vessels.

And these are especially cases in which tact, and advice judiciously given, are more likely to have the desired effect than more formal notices, the latter being all the more difficult to enforce owing to the short stay generally made by a vessel in any particular Port.

As there was a marked abatement of Cholera upon the Continent, and as no vessels hailing from infected Ports entered our river, there was no necessity for boarding and examining suspected vessels as was the case in the Autumn of 1893. The Hospital erected near the Tidal Basin at the entrance to the Dock, in the early part of that year in compliance with the requirements of the Local Government Board, and for the purpose of dealing with any imported case of Cholera, has remained ready for immediate use although fortunately no call has been made upon its services. Indeed there has been an absence of any infectious or serious disease amongst the crews of incoming vessels, the only cases of illness having been either of a trivial character or else the result of minor accidents.

H. O. PILKINGTON,

April 6th, 1895.

Medical Officer to Port Sanitary Authority.

TABLE No. 1.

Number and Causes of Deaths at different Ages, for the Year ending December 31st, 1894.

Cause of Death.	Under 1 Year.	1 to 2	2 to 5	5 to 10	10 to 15	15 to 25	25 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	90 to 100	Total.	Year 1893.	Year 1892.	Year 1891.	Average for 6 years
Small Pox .....	...	...	...	...	...	...	...	...	...	...	1	..	...	1	...	...	...	5.13
Fever	1	...	..	2	3	11	7	3	2	...	...	...	...	29	48	34	32	36.5
Scarlatina, &c. ....	...	2	3	2	..	2	...	...	...	...	...	...	...	9	25	72	30	31.5
Measles	13	8	12	1	...	1	.	...	...	...	...	...	...	35	168	9	83	94.34
Diarrhœa	118	15	1	1	...	...	...	2	1	1	3	1	...	143	343	237	270	268.
Whooping Cough	18	11	11	...	...	1	...	...	...	...	...	...	...	41	39	84	33	66.16
Diphtheria	1	2	1	3	...	...	...	1	...	...	...	...	...	8	11	10	13	15.87
Croup	3	2	2	...	...	...	...	...	...	...	...	...	...	7	8	7	12	13.5
Consumption	11	7	6	1	3	31	61	26	15	4	1	...	...	166	190	175	192	177.33
Bronchitis	72	12	10	2	...	1	12	17	28	51	31	2	..	238	268	294	334	299.64
Inflammation of Lungs	53	19	13	4	2	8	17	12	14	16	7	1	...	166	205	191	291	238.86
Teething, Convulsions Pre- mature Births & Debility }	475	40	6	1	...	...	...	...	...	...	...	...	...	522	638	550	601	595.67
Old Age .....	...	...	...	...	...	..	...	...	...	7	40	28	...	75	68	72	74	79.33
Violence. &c.....	3	1	7	2	2	8	10	11	7	3	2	...	...	56	55	39	53	52.84
Other Diseases	8	23	33	19	18	43	103	94	119	137	86	7	...	690	687	707	789	715.63
Totals	776	142	105	38	28	106	210	166	186	219	171	39	...	2186	2753	2481	2807	2685.3

TABLE No. 2.

**Number and Causes of Deaths in each Month of the Year ending
December 31st, 1894.**

Cause of Death.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Small Pox .....	...	...	...	...	...	1	...	...	...	...	...	...	1
Fever	2	2	2	2	2	2	2	3	3	4	2	3	29
Scarlatina, &c. ...	1	4	2	...	...	2	...	...	..	...	...	...	9
Measles .....	...	1	4	6	7	5	2	3	3	...	...	4	35
Diarrhœa	4	2	1	1	2	4	9	65	41	10	2	2	143
Whooping Cough.....	2	3	4	3	4	5	5	3	3	3	2	4	41
Diphtheria	1	1	1	...	...	...	...	1	4	...	...	...	8
Croup	1	1	1	...	...	...	...	...	...	1	1	2	7
Consumption	18	18	17	11	12	14	9	14	15	12	6	20	166
Bronchitis ...	34	19	33	17	15	9	11	17	11	15	16	41	238
Inflammation of Lungs.....	15	15	26	14	9	14	7	8	9	14	13	22	166
Teething, Convulsions, Pre } mature Births & Debility }	40	34	39	36	32	29	43	58	41	43	61	66	522
Old Age	10	6	8	8	6	7	2	8	7	4	7	3	76
Violence, &c.	3	4	8	4	4	4	4	2	5	6	1	10	55
Other Diseases	50	63	58	56	49	69	52	54	64	60	52	63	690
Totals	181	173	204	158	142	165	146	236	206	172	163	240	2186

558

465

588

575

TABLE No. 3.

Number and Causes of Deaths in each Ward for the Year ending December 31st, 1894.

Wards.	Small Pox.	Fever.	Searlatina, &c.	Measles.	Diarrhoea and Dysentery.	Whooping Cough.	Diphtheria.	Croup.	Consumption.	Bronchitis.	Inflammation of Lungs.	Teething, Convulsions, Pre-mature Births, & Debility	Old Age.	Violence, &c.	Other Diseases.	Total Deaths.	Rate per 1000 per annum.	Births.	Rate per 1000 per annum.	Population.
St. Peter's Ward	...	11	...	7	32	4	1	...	28	42	28	124	9	7	119	412	19.47	772	36.49	21151
Park Ward .....	...	6	3	8	33	7	1	2	45	79	51	122	23	8	143	531	19.73	813	30.21	26903
Fishwick Ward ..	...	1	2	5	45	11	2	1	31	46	31	127	18	9	151	480	20.83	802	34.81	23037
St. John's Ward...	...	4	2	4	17	9	2	...	29	35	19	58	10	6	94	289	21.94	385	29.23	13171
Christ Church Wd.	...	2	1	3	9	4	1	2	20	22	18	48	10	4	87	231	17.62	358	27.30	13109
Maudland Ward...	...	2	...	8	7	6	1	2	9	14	16	43	5	6	72	191	13.59	411	29.24	14054
Gaol, Infirmary, &c.	1	3	1	...	..	...	...	...	4	...	3	...	1	15	24	52	...	4	...	...
Total.....	1	29	9	35	143	41	8	7	166	238	166	522	76	55	690	2186	19.61	3545	31.81	111425

Death Rate per annum per 1,000 of Population for the year 19.61

Average Death Rate per annum per 1,000 of Population for the past six years..... 25.13

Do. do. for 10 years..... 25.00

Death Rate per annum per 1,000 of Population of Children under one year 6.96

Per centage of Deaths under one year to total Deaths for the year..... 35.49

Do. do. for 10 years..... 29.46

TABLE No. 4.

Number of Deaths in each Ward during each Month of 1894.

WARDS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	TOTAL.
St. Peter's Ward ...	40	29	43	18	26	35	21	44	51	37	28	40	412
Park Ward ...	47	34	49	33	38	38	39	57	40	52	39	65	531
Fishwick Ward ...	36	41	41	39	30	30	38	56	50	30	41	48	480
St. John's Ward ...	27	22	31	23	13	31	13	34	27	20	22	26	289
Christ Church Ward...	17	21	21	21	13	17	15	22	21	19	14	28	231
Maudland Ward ...	12	22	10	19	17	6	17	21	13	13	15	26	191
Gaol, Infirmary, &c....	2	4	9	5	3	8	3	2	4	1	4	7	52
Total ...	181	173	204	158	142	165	146	236	206	172	163	240	2186

TABLE No. 5.

Per Centage of Deaths from Zymotic Diseases to Sickness reported during the Year ending December 31st, 1894.

Disease.	Number of Cases Reported.	No. of Deaths.	Per Centage.
Small Pox	32	1	3.12
Typhoid Fever	114	29	25.43
Scarlet Fever.....	184	9	4.89
Diphtheria	39	8	20.51

TABLE No. 6.

Substances submitted for Analysis during the Year 1894.

Nature of Articles.	No. of Samples.	Result.
New Milk	26	Genuine.
Bread	2	
Butter	3	
Lard	5	
Whiskey	4	
Beer	3	
Coffee	2	
Cayenne Pepper	5	
Mustard	3	
Vinegar	3	
Pepper.....	2	
Arrowroot	1	
Curry Powder.....	1	
Ice Cream	4	
Whiskey	1	9½ per cent. excess of Water. Fined 40/- and Costs.
Do.	1	8 per cent. do. Fined 20/- and Costs.
Do. ..	1	2½ per cent. do. Cautioned.
Do.	2	Slight excess of Water.
Coffee	1	25 per cent. of Chicory. Fined 10/- and Costs.

TABLE No. 7.

Contagious Diseases (Animals) Act, 1878.

Name of Disease.	Situation of Premises.	Date of Outbreak.	Number of Diseased Animals.	Slaughtered by Order.	Number of Healthy Animals in contact with Disease.	Date when Premises were declared free from Disease	Number of Visits.
Swine Fever	New Har- bour Inn, Bow Lane	Jan. 9th.	4	4	None	June 4th.	2
Do.	Avenham St. Mill	Feb. 24th.	7	7	None	March 31st	2
Sheep Scab	Railway Arch near P'nwortham Bridge	Dec. 17th.	5	None	4	Not Free Dec. 31st.	3

TABLE No. 8.

Return of Work done by Inspector of Food and Drugs, &c., for the Year 1894.

Food and Drugs, Samples purchased ...	.....	.....	70
Corn Sheds and Dairies visited	.....	.....	345
Meat, Seizures made.....	.....	.....	... 41,989 lbs.
Fish, do. ....	.....	.....	... 23,105 lbs.
Fruit, do. ....	.....	.....	... 14,630 lbs.
Slaughter Houses visited...	.....	.....	6711

TABLE No. 9.

Return of Port Sanitary Work for Year 1894.

Inspection of Steamers ...	... ..	.....	341
Do. Sailing Vessels	.....	.....	251
Re Inspections	.....	.....	197
Conditions of Vessels examined	.....	} Good ... } Passable } Defective	..... 365 104 123

Defective Conditions remedied :—

Paint Locker in bad position	.....	.....	6
Forecastle Deck Leaking	.....	.....	2
Do. Dirty	.....	.....	29
Do. Requiring repainting	.....	.....	43
Do. Defective Ventilation and Light	.. ..	.....	9
Defective Privies and Water Closets	.....	.....	20
Do. Water Casks replaced with Iron Tanks	.....	.....	7
Water Casks and Tanks Dirty	.....	.....	9
Foul Bilges and Peaks ...	.....	.....	10
Defective Stoves replaced	.....	.....	8

TABLE No. 10.

Birth Rate, and Analysis of the Zymotic Death Rate in 33 of the largest English Towns for the Year ending December 31st, 1894, compiled from the Registrar-General's Returns.

NAME OF TOWN.	Population	Birth Rate.	Death Rate.	ZYMOTIC DEATH RATE.								Deaths under One Year 1,000 Births
				Small Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whoop'g Cough.	Fever.	Diarrhoea	TOTAL.	
London	4,349,166	30·1	17·71	0·02	0·76	0·22	0·61	0·48	0·15	0·41	2·66	143
West Ham	238,184	33·9	16·1	0·20	0·96	0·15	0·80	0·42	0·21	0·45	3·19	138
Croydon	111,921	25·0	13·08	...	0·35	0·07	0·28	0·55	0·06	0·16	1·54	121
Brighton	118,715	25·8	16·4	...	0·30	0·03	0·22	0·11	0·09	0·43	1·20	138
Portsmouth	170,973	27·6	15·1	0·02	0·81	0·08	0·19	0·24	0·15	0·43	1·94	130
Plymouth.....	87,931	28·8	18·3	0·05	0·03	0·09	0·05	0·89	0·12	0·32	1·58	167
Bristol	226,578	28·2	17·2	0·07	0·50	0·07	0·21	0·77	0·09	0·30	2·04	148
Cardiff	148,890	35·1	16·2	...	0·07	0·05	0·46	0·83	0·05	0·70	1·93	141
Swansea	95,399	32·2	17·0	...	0·27	0·24	0·10	0·81	0·12	0·20	1·76	161
Wolverhampton ...	85,036	34·0	20·7	0·05	0·85	0·62	0·41	0·33	0·20	0·25	3·23	166
Birmingham	492,301	31·6	18·5	0·34	0·66	0·15	0·15	0·43	0·21	0·52	2·49	163
Norwich ..	105,645	29·8	18·7	...	0·20	0·14	0·17	0·36	0·22	0·40	1·50	165
Leicester	189,136	31·4	14·6	...	0·56	0·16	0·06	0·06	0·14	1·05	1·93	162
Nottingham	223,584	28·6	17·2	0·01	0·60	0·22	0·08	0·53	0·27	0·60	2·33	174
Derby	98,796	29·3	15·0	...	0·64	0·15	0·05	0·16	0·26	0·35	1·62	123
Birkenhead	105,627	30·6	18·0	0·01	0·87	0·11	0·39	0·63	0·16	0·45	2·64	142
Liverpool.....	507,230	35·3	23·8	0·04	0·59	0·45	0·19	0·54	0·58	0·99	3·41	180
Bolton	118,303	31·5	18·8	...	0·17	0·07	0·08	0·50	0·22	0·76	1·82	162
Manchester	520,211	31·9	20·4	0·04	0·43	0·22	0·28	0·55	0·18	0·66	2·38	159
Salford	205,828	34·2	20·9	0·01	0·71	0·54	0·30	0·68	0·32	0·69	3·25	174
Oldham	138,755	27·1	18·6	0·16	0·40	0·15	0·28	0·41	0·11	0·31	1·84	178
Burnley	96,478	32·2	18·2	...	0·37	0·52	0·30	0·17	0·28	0·80	2·46	169
Blackburn	125,797	28·8	17·9	...	0·10	0·07	0·14	0·33	0·26	0·68	1·60	169
Preston	111,425	32·0	20·7	0·01	0·33	0·10	0·07	0·41	0·26	1·41	2·61	217
Huddersfield	98,511	20·2	15·8	...	0·13	0·23	0·22	0·40	0·12	0·18	1·44	159
Halifax.....	92,861	23·1	16·4	0·04	0·35	0·03	0·13	0·20	0·06	0·04	0·87	136
Bradford	223,985	26·6	17·0	0·12	0·51	0·32	0·07	0·30	0·13	0·29	1·76	145
Leeds	388,761	32·2	17·8	...	0·74	0·13	0·18	0·34	0·13	0·45	2·00	156
Sheffield	338,316	30·8	17·7	...	0·48	0·11	0·19	0·70	0·19	0·56	2·26	157
Hull	212,679	32·3	17·3	0·01	0·43	0·18	0·13	0·38	0·18	0·41	1·78	141
Sunderland	136,101	35·1	20·7	...	0·85	0·18	0·06	0·51	0·60	0·83	3·05	168
Gateshead	93,372	34·1	17·6	0·01	1·33	0·06	0·22	0·33	0·24	0·47	2·35	151
Newcastle.....	201,947	31·0	18·2	...	0·47	0·14	0·16	0·51	0·13	0·47	2·16	157

TABLE No. 11.

Meteorological Observations for the year ending December 31st, 1894.

Month.	Attached Thermometer.	Barometer.	Barometer corrected to 32deg. Fahr.	Hygrometer.		Temperature in Shade.		Earth Thermometer.		Mean Daily Temperature.	Humidity Saturation=100	Temperature of Town's Water.	Rainfall in inches.	Wind— Velocity in miles.	Number of Deaths from	
				Dry Bulb.	Wet Bulb.	Maxi- mum.	Mini- mum.	One Foot.	Four Feet.							
January	39.71	29.667	29.785	39.54	40.52	43.85	35.89	40.05	42.55	40.13	90	36.4	3.56	4295.0	4	34
February	40.71	29.750	29.907	40.71	40.73	45.97	39.10	40.35	42.18	42.02	92	38.2	4.96	2066.1	2	19
March.....	44.64	29.794	29.891	46.06	43.35	52.03	39.08	43.07	41.78	46.04	81	40.1	2.27	1890.4	1	33
April	50.61	29.755	29.839	52.28	65.61	48.95	43.57	47.14	45.90	51.59	78	44.3	0.73	2749.0	1	17
May.....				Instru- ments		not in use.									2	15
June	58.56	...	...	58.94	55.65	62.51	51.64	...	...	57.75	79	53.9	2.37	3192.0	4	9
July.....	...	...	...	Instru- ments		not in use.		...	...	...	...	...	..	...	9	11
August .....	...	...	...	Do.		Do.		...	...	...	...	...	...	...	65	17
September	53.28	30.093	30.165	50.17	53.78	59.12	48.32	53.09	54.25	54.30	94	56.1	0.61	2577.9	41	11
October	49.19	29.819	29.906	50.01	48.77	54.97	44.88	49.03	51.77	49.81	91	50.7	3.20	3817.6	10	15
November	46.14	29.862	29.959	46.86	46.10	50.78	43.16	46.99	49.75	46.87	95	49.9	2.84	2921.4	2	16
December	43.14	29.735	29.864	43.49	42.74	46.55	39.32	43.17	46.64	43.08	94	42.6	3.29	4064.7	2	41

TABLE No. 12.

Summary of Work done during the Year ending December 31st, 1894.

	No. 1 District.	No. 2 District.	No. 3 District.	No. 4 District.	TOTAL.
Number of Ashpails emptied .....	...	...	...	...	531,399
„ Ashpits emptied .....	...	...	...	...	16,934
„ Complaints received	210	315	385	484	1394
Inspection of Dwelling Houses	3813	3570	3229	2276	12,887
„ Cellars	137	226	179	14	556
„ Schools	18	28	31	2	79
„ Lodging Houses	482	270	...	218	970
„ Slaughter Houses	75	393	282	300	1050
„ Canal Boats .....	...	...	...	57	57
„ Dairies and Milkshops .....	...	111	180	...	291
„ Bakehouses	108	155	116	36	415
„ Markets	7	57	51	48	163
„ Ashpits and Yards.....	4434	4078	4115	3617	16,244
„ Drains	4444	4521	4429	3651	17,045
„ Infected Houses	170	166	155	87	578
„ Mills and Workshops	70	90	87	13	260
M. O. H. Circular letters sent .....	...	4	4	1	9
Notices served for Slopstone Pipes	10	4	10	7	31
„ Defective Drains	304	267	292	156	1019
„ „ Spouts	27	34	55	8	124
„ „ Water Closets	85	93	110	51	339
„ „ Privies and Ashpits	64	52	63	33	212
„ „ Yard Pavement	28	29	90	11	15g
„ Privies converted into W.C's.	171	174	123	31	499
„ Cellar Grate Dangerous	4	6	2	1	13
„ Overcrowding .....	...	...	1	...	1
„ Limewashing	15	9	86	20	130
„ Manure Accumulations	2	4	2	1	9
„ Stagnant Water.....	...	71	75	...	146
„ General Nuisances	9	28	20	35	92
„ Houses unfit for Habitation .....	...	3	...	...	3
„ Cellars do. do.	7	1	...	...	8
„ Sewer, Level and Pave	469	...	119	10	598
Smoke Observations	11	35	50	3	99
Animals Removed	5	7	17	4	33
Houses Fumigated	139	132	135	70	476
Bedding Disinfected	29	25	29	41	124
Drains Tested	4	20	36	20	80
Re-Inspections	724	927	870	305	2826

TABLE No. 13.

The estimated Population, Number of Births and Deaths, Rates per thousand, and natural increase in the Borough, for each year since 1841.

Years.	Estimated Population	No of Deaths.	Death Rate per 1000.	No. of Births.	Birth Rate per 1000	Natural Increase
1841	51 000	1508	29.57	1974	38.70	466
1842	52 840	1550	29.33	1944	36.79	394
1843	54,680	1459	26.38	1975	36.12	516
1844	56,520	1380	24.42	2200	38.92	820
1845	58,360	1635	28.01	2293	39.29	558
1846	60,200	2189	36.36	2475	41.09	286
1847	62,050	2059	33.18	2268	36.59	209
1848	63 900	1550	24.26	2223	34.79	673
1849	65,750	1751	26.63	2403	36.55	652
1850	67,000	1745	25.81	2649	39.19	904
1851	69,450	2241	32.26	2803	40.36	562
1852	70,850	2184	32.23	2998	42.31	714
1853	72,250	2346	32.47	3072	42.51	726
1854	73,600	2013	27.35	3037	41.26	1024
1855	75,000	2557	34.10	3071	40.95	514
1856	76,400	2251	29.46	3151	41.24	900
1857	77,800	2131	27.39	3286	42.24	1155
1858	79,200	2545	32.13	3082	38.91	537
1859	80,600	2111	26.19	3399	42.17	1288
1860	82,000	2236	27.27	3381	41.23	1145
1861	82,985	2585	31.15	3626	43.69	1041
1862	83,231	2411	28.97	3522	42.32	1111
1863	83,477	2142	25.66	3388	40.57	1246
1864	83,686	2432	29.06	3422	40.89	990
1865	83,932	2708	32.26	3338	39.77	630
1866	84,178	2854	33.90	3535	41.99	681
1867	84,424	2608	30.89	3732	44.20	1124
1868	84,670	2798	33.04	3710	43.82	912
1869	84,916	2248	26.47	3434	40.44	1186
1870	85,162	2406	28.25	3486	40.93	1080
1871	85,427	2541	29.75	3438	40.24	897
1872	85,654	2294	26.78	3704	43.24	1410
1873	86,000	2899	33.71	3558	41.37	659
1874	86,000	2962	34.44	3582	41.65	620
1875	86,000	2581	30.01	3499	40.68	918
1876	86,600	2331	26.92	3623	41.84	1292
1877	87,000	2336	26.85	3601	41.39	1265
1878	87,300	2502	28.66	3697	42.35	1195
1879	87,600	2395	27.34	3403	38.83	1068
1880	88,000	2425	27.35	3475	39.49	1050
1881	96,524	2044	21.17	3489	36.14	1445
1882	97,656	2511	25.71	3785	38.76	1214
1883	98564	2345	23.79	3576	36.28	1231
1884	99 481	2540	25.53	3745	37.64	1205
1885	100,406	2563	25.52	3868	38.52	1305
1886	101,340	2769	27.32	3961	39.08	1192
1887	102,283	2703	26.42	3870	37.83	1167
1888	103,234	2326	22.53	3823	37.03	1497
1889	104,194	3019	28.97	3912	37.63	902
1890	105,163	2726	25.92	3718	35.35	992
1891	107,864	2807	26.02	3830	35.50	1023
1892	109,038	2481	22.75	3686	33.80	1205
1893	110,225	2753	24.97	3809	34.55	1056
1894	111,425	2186	19.61	3545	31.81	1359

TABLE No. 14.

TABLE OF DEATHS during the year 1894, in the Preston Urban Sanitary District.

Classified according to DISEASES, AGES, and LOCALITIES.

Names of Localities adopted for the purpose of these Statistics; public institutions being shown as separate localities. (a)	MORTALITY FROM ALL CAUSES AT SUBJOINED AGES.							(i)	MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.																		
	At all ages. (b)	Under 1 year. (c)	1 and under 5. (d)	5 and under 15. (e)	15 and under 25. (f)	25 and under 65. (g)	65 and upwards. (h)		Smallpox. 1	Scarlatina. 2	Diphtheria. 2	Membranous Group. 4	FEVERS.				Erysipelas. 8	Measles. 9	Whooping Cough. 10	Diarrhoea and Dysentery. 11	Rheumatic Fever. 12	Phthisis. 13	Bronchitis, Pneumonia, and Pleurisy. 14	Heart Disease. 15	Injuries. 16	All other Diseases. 17	TOTAL. 18
													Enteric or Typhoid. 5	Continued 6	Puerperal. 7												
St. Peter's Ward ...	412	166	42	10	18	131	48	Under 5 5 upwards	...	...	...	1	...	1	...	...	8	4	30	1	7	27	...	...	126	205
									...	1	...	...	9	1	5	...	...	...	1	1	20	44	24	6	95	207
Park Ward	531	188	73	9	22	161	78	Under 5 5 upwards	...	1	...	4	...	...	...	...	9	6	32	1	9	61	1	2	135	261
									...	1	1	...	5	1	3	4	...	...	3	2	37	71	30	8	104	270
Fishwick Ward	479	206	52	18	24	106	73	Under 5 5 upwards	...	1	2	5	...	...	...	...	4	11	43	...	5	40	2	2	143	258
									...	1	...	1	1	...	4	...	1	...	3	1	26	38	38	6	107	221	
St. John's Ward	289	91	33	11	15	97	42	Under 5 5 upwards	...	2	2	...	...	...	...	...	4	9	17	...	5	20	...	2	63	124
									...	...	...	...	4	...	3	1	...	...	2	...	25	29	20	6	75	165
Christ Church Ward.	231	62	21	5	10	85	48	Under 5 5 upwards	...	...	1	2	...	...	...	...	2	4	8	...	1	17	...	1	47	83
									...	...	...	...	1	...	...	...	...	...	...	1	17	20	23	3	83	148
Maudland Ward	190	54	34	6	9	56	31	Under 5 5 upwards	...	1	...	2	...	...	...	...	11	4	8	...	...	7	2	1	52	88
									...	...	...	1	2	...	...	2	...	...	1	2	12	26	17	7	33	102
Royal Infirmary	46	2	3	7	5	26	3	Under 5 5 upwards	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	2	5
									...	1	...	...	3	...	...	...	...	...	...	...	2	3	...	11	21	41
St. Joseph's Hospital.	6	...	...	...	4	...	2	Under 5 5 upwards	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
									...	...	...	...	...	...	...	...	...	...	...	...	3	2	...	...	1	6
Gaol	3	1	...	...	...	2	...	Under 5 5 upwards	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1
									...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	2
Small Pox Hospital...	1	...	...	...	...	...	1	Under 5 5 upwards	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
									1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Total.....	2188	770	258	66	107	664	326	Under 5 5 upwards	...	5	5	14	...	1	...	...	38	38	138	2	27	172	5	11	569	1025
									1	4	1	2	25	2	15	7	1	...	10	7	142	233	153	48	519	1163	
The subjoined numbers have also to be taken into account in judging of the above records of mortality.																											
Deaths occurring outside the district among persons belonging thereto.	129	6	1	1	2	70	49	Under 5 5 upwards	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	6	7
									...	1	...	...	1	...	...	...	...	...	3	...	12	18	14	...	73	122



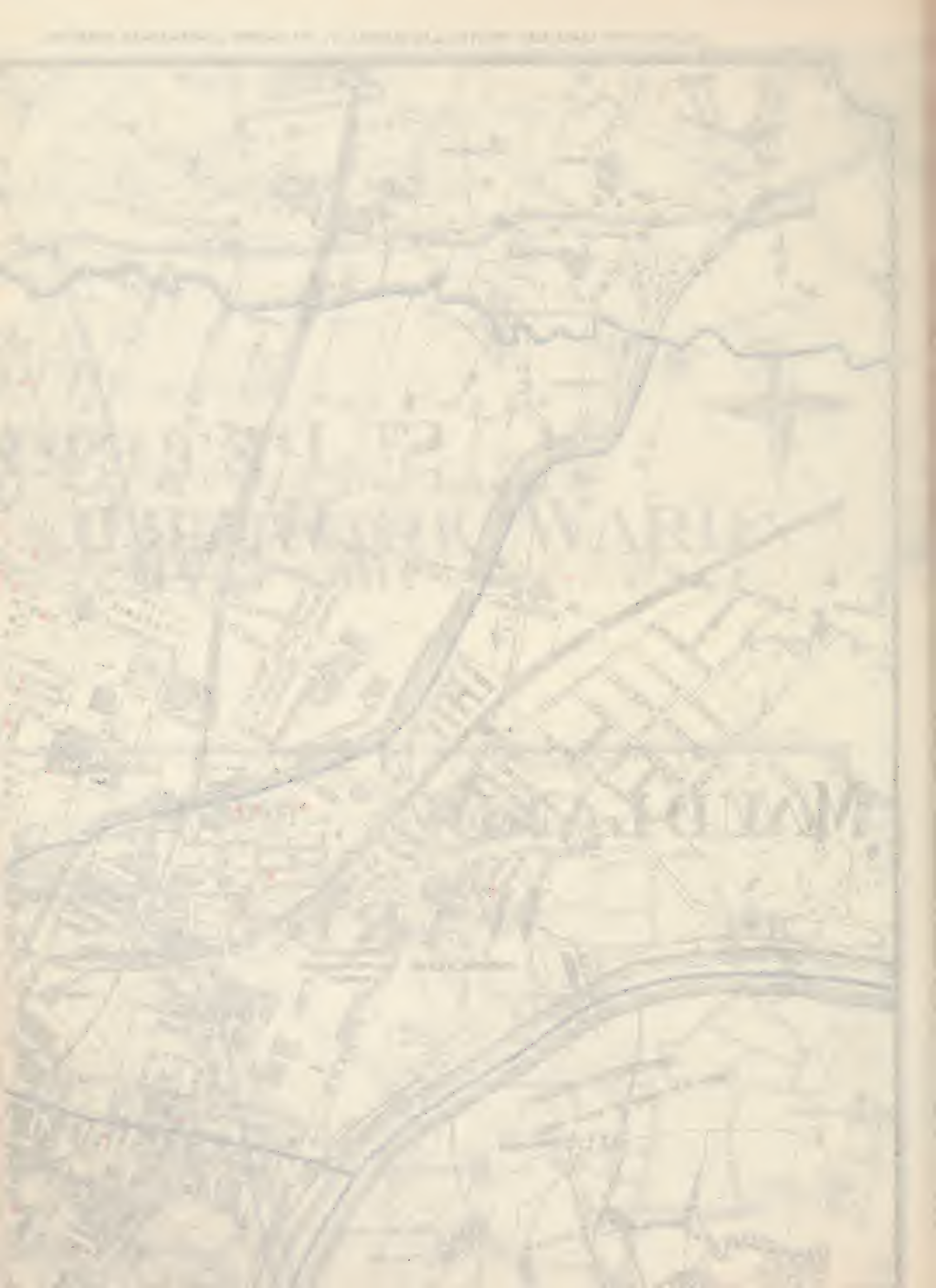
Portions Coloured Red indicate Property reported upon and improved during the year 1894.

Those in lighter shade indicate blocks dealt with during previous eleven years.

Infantile Diarrhœa, 1894.

The Red Spots • indicate Deaths
from Diarrhœa, under the age
of one year.





Zymotic Diseases, 1894.

The Red Spots ● indicate Deaths from Scarlet Fever.

The Blue Spots ● indicate Deaths from Typhoid Fever.

The Yellow Spots ● indicate Deaths from Diphtheria.



